Amendments to the Specification

The paragraph numbers below refer to the paragraph numbers in Published United States Patent Application No. 2004-0233150.

Please replace the paragraph number [0005] with the following rewritten paragraph:

[0005] The concept of digital LCoS devices has been known for well over 10 years. The U.S. Pat. No. 5,959,598 to McKnight gives ~~and~~ an example of many of the basic digital LCoS concepts and is included herein by reference. U.S. Pat. No. 6,650,138 to Zuravleff shows another variation of this "master-slave" mirror drive arrangement. Both these patents use a feed forward drive method. Both of these patents show a two storage bit structure in which one of the storage bits is directly shifted to the next bit for display, and thus the two bits of storage are inexorably linked together and connected to a specific output. However, the methods described in these patents require considerable bandwidth.

Please replace the paragraph number [0133] with the following rewritten paragraph:

[0133] For the purposes of the present invention, the term "mirror bit cell" will be used synonymously with the term "drive bit cell." The "mirror bit cell" or "drive bit cell" include at least one bit of storage and may included other circuitry has an output of the device based on it. The output of the device may be purely a visual such the control of reflected or emitted light. In some embodiments of the present invention, a reflective mirror is used both as ~~and~~ an electrode and an optical mirror while in other embodiments of the present invention, such as when driving LEDs, the electrode may not also be an optical mirror.

Please replace the paragraph number [0134] with the following rewritten paragraph:

[0134] For the purposes of the present invention, the term "mirror bit" will be used synonymously with the term "drive bit." The "mirror bit" or "drive bit" is a bit of storage that either directly or through other circuitry has an output of the device based on it. The output of the device may be purely a visual such the control of reflected or emitted light. In

some embodiments of the present invention, a reflective mirror is used both as ~~and~~ an electrode and an optical mirror while in other embodiments of the present invention, such as when driving LEDs, the electrode may not also be an optical mirror.

Please replace the paragraph number [0135] with the following rewritten paragraph:

[0135] For the purposes of the present invention, the term "mirror" will be used synonymously with the term "electrode." In some embodiments of the present invention, a reflective mirror is used both as ~~and~~ an electrode and as an optical mirror while in other embodiments of the present invention, such as when driving LEDs, the electrode may not also be an optical mirror.

Please replace the paragraph number [0182] with the following rewritten paragraph:

[0182] The general concept of digital LCoS devices has been known for well over 10 years. U.S. Pat. No. 5,959,598 to McKnight, gives ~~and~~ an example of many of the basic digital LCoS concepts and the entire contents and disclosure of this patent is hereby incorporated by reference. U.S. Pat. No. 6,650,138 to Zuravleff shows another variation of this "master slave" mirror drive arrangement and the entire contents and disclosure of this patent is hereby incorporated by reference. Both of the above patents describe using a feed forward drive method. Both show a two storage bit structure in which one of the storage bits is directly shifted to the next bit for display, and thus the two bits of storage are inexorably linked together and connected to a specific output.

Please replace the paragraph number [0221] with the following rewritten paragraph:

[0221] The D-flip flop and the multiplexer used in the embodiment of FIG. 5 may be any suitable D-flip flop or multiplexer. In one embodiment, the new value of FIG. 5 may be one ~~a~~ control signal, such as one of the control signals shown in FIG. 2. Also the enable bit in of FIG. 5 may be the result of some logical and arithmetic operation on some part of the pixel data and timing and control signals shown such as the "intermediate value(s)" shown in FIG. 2 and ~~describe~~ described above. For spatial light modulator there will be ~~and~~ an

array of outputs.~~,~~ ~~t~~Thus, some embodiments of the present invention will ~~in~~ support ~~of~~ processing many bits of output. In particular in some embodiments a large number of output bits may be processed in parallel.

Please replace the paragraph number [0242] with the following rewritten paragraph:

[0242] It will be understood that the SRAM array shown in FIG. 9 is only a simple example for illustrative purposes only. The actually array for a display may have 1000 or more rows and ~~a~~ 1000 or more columns of bits. It should also be understood that RAM types other than those using SRAM bits may be used.

Please replace the paragraph number [0274] with the following rewritten paragraph:

[0274] It will be understood by those skilled in the art, that for some applications that the XOR gate 1232 may not be necessary. As ~~and~~ an example, if the data that would require the logical ORs is different than that for the processing that would require the NOT-ORs then, for example, the data may be inverted before being stored in the ERAM. This pre-inversion may be done on the backplane as it is being stored, by the input buffers to the backplane, some other place on the backplane, or the data requiring inversion may be sent to the backplane inverted.

Please replace the paragraph number [0527] with the following rewritten paragraph:

[0527] If at any time in the procedure outlined above ~~and~~ an error is found, it may be either saved in the test logic for later use or immediately communicated to a testing as is common in test procedures.

Please replace the paragraph number [0548] with the following rewritten paragraph:

[0548] In one embodiment, the present invention provides a visual display device with an array of MRAM storage bits that are used to control ~~and~~ an array of electrodes wherein there are column drivers on both sides of the memory so that some or all of the rows of

memory bits may be driven from either side of the array. The storage bits may or may not be connected to other circuitry in order to facilitate driving the electrode. The visual display may be an LCoS, DLP.TM., OLED microdisplay or any other type of visual display.

Please replace the paragraph number [0563] with the following rewritten paragraph:

[0563] In one embodiment, the present invention provides a digital backplane that controls ~~and~~ an array of processing elements where in the programmed sequence of operations is stored in memory. The locations in that memory define the sequence operations to be performed by the backplane. The sequence of operations may include controlling multiple memory pointers. The memory pointers may point at circular buffers and may share common processing logic for modifying the values in the pointers. There may also be a set of readable and writable storage location that contain the pointers The program control may include values that define either directly or by computation, the starting address of one or more circular buffers, the ending address of one or more circular buffers. Hardware may be used with the digital backplane or the backplane may include hardware to modify the current value of each pointer either before or after it is used and before it is stored back in the pointer memory. The modification of a pointer may include incrementing to the next location and resetting the pointer to it starting value if the value exceeds the bounds of the circular buffer. There may be redundant pointers to one or more of the circular buffers. Also, every time a pulse width is computer, there separate buffer pointers for each bit that is to be accessed.